

## WHAT IS CLAIMED IS:

- 1                    1.     A method for treating a film of material, said method comprising:  
2                    providing a substrate comprising a cleaved surface, said cleaved surface  
3 being characterized by a predetermined surface roughness value; and  
4                    increasing a temperature of said cleaved surface to greater than about  
5 1,000 Degrees Celsius while maintaining said cleaved surface in a hydrogen bearing  
6 environment to reduce said predetermined surface roughness value by about fifty percent  
7 and greater.
- 1                    2.     The method of claim 1 wherein said distribution of hydrogen  
2 treating said cleaved surface during a portion of said increased temperature.
- 1                    3.     The method of claim 1 wherein said hydrogen bearing environment  
2 is derived from an HCl gas and a hydrogen gas.
- 1                    4.     The method of claim 3 wherein said HCl gas and said hydrogen gas  
2 is at a ratio of about 0.001 to 10.
- 1                    5.     The method of claim 4 wherein said ratio of said HCl gas and said  
2 hydrogen gas is about 0.001 to 10 and greater.
- 1                    6.     The method of claim 1 wherein said substrate is maintained at  
2 about 1 atmosphere during said hydrogen treatment.
- 1                    7.     The method of claim 1 wherein said cleaved surface is provided by  
2 a controlled cleavage process.
- 1                    8.     The method of claim 1 wherein said substrate is a silicon wafer.

Add A2

Add B1